

What is claimed is:

1. A mobile micro-robot for use inside a body of an animal in minimally invasive surgery, comprising:

- a body;
- mobilization means for moving the micro-robot;
- controller means for controlling remotely the mobilization means;
- an actuator;
- a power supply; and
- at least one device selected from a manipulator or a sensor.

2. The mobile micro-robot of claim 1, wherein the body is shaped like a cylinder, sphere, snake or small vehicle.

3. The mobile micro-robot of claim 2, wherein the body is shaped like a cylinder.

4. The mobile micro-robot of claim 1, wherein the mobilization means comprises wheels, tracks, walking means, hopping means, rotation means, contortion of the body or a combination thereof.

5. The mobile micro-robot of claim 4, wherein the mobilization means is one or more wheels.

6. The mobile micro-robot of claim 5, wherein the one or more wheels have treads.
7. The mobile micro-robot of claim 1, further comprising a transmitter.
8. The mobile micro-robot of claim 1, further comprising a receiver.
9. The mobile micro-robot of claim 1, further comprising a transmitter and a receiver.
10. The mobile micro-robot of claim 1, wherein the actuator is a brushless direct current actuator, a magnetic direct current actuator, an electromagnet actuator, a permanent magnet direct current motor, a shape memory alloy, a piezo-electric-based actuator, a pneumatic actuator or a hydraulic actuator.
11. The mobile micro-robot of claim 10, wherein the actuator is a brushless direct current actuator.
12. The mobile micro-robot of claim 1, wherein the micro-robot is attached to and powered by an external power supply.
13. The mobile micro-robot of claim 1, wherein the power supply is an internal power supply.

14. The mobile micro-robot of claim 13, wherein the internal power supply is one or more batteries.

15. The mobile micro-robot of claim 1, wherein the at least one device is a manipulator device that comprises an arm.

16. The mobile micro-robot of claim 1, wherein the at least one device is a sensor device selected from a camera, an imaging device, a pH sensor, a temperature sensor, a sensor to detect gasses, a sensor to detect electrical potential, a sensor to detect heart rate, a sensor to detect respiration rate, a sensor to detect humidity, or a sensor to detect blood.

17. The mobile micro-robot of claim 1, wherein the at least one device comprises a manipulator and an imaging device.

18. The mobile micro-robot of claim 1, wherein the mobile micro-robot is wireless.

19. The mobile micro-robot of claim 18, wherein the actuator is a brushless direct current motor, the power supply is a battery, and the mobile micro-robot further comprises a receiver and a transmitter.

20. A method for performing minimally invasive surgery inside a body of an animal comprising using the device of claim 1 for at least one of detection or manipulation.

21. A mobile micro-robot for use inside a body of an animal in minimally invasive surgery, comprising:

- a body;
- wheels;
- a controller means for controlling remotely the wheels;
- a brushless direct current motor;
- a battery; and
- at least one device selected from a manipulator or a sensor.

22. A mobile micro-robot for use inside a body of an animal in minimally invasive surgery, comprising:

- a body;
- a sensor;
- mobilization means for moving the sensor;
- controller means for controlling remotely the mobilization means;
- an actuator; and
- a power supply.

23. The mobile micro-robot of claim 22, wherein the sensor is an imaging device.

24. The mobile micro-robot of claim 23, wherein the positioning is pan, tilt or combinations thereof.